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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,827	12/08/2003	Tomohiko Kobayashi	FP03-150US	4217
1218	7590	09/20/2004	EXAMINER	
CASELLA & HESPOS 274 MADISON AVENUE NEW YORK, NY 10016			DINH, PHUONG K	
			ART UNIT	PAPER NUMBER
			2839	

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/730,827

Applicant(s)

KOBAYASHI, TOMOHIKO

Examiner

Phuong KT Dinh

Art Unit

2839

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/08/03; 03/18/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1- 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makita et al. (U. S. Patent 5,611,706).

Regarding claims 1, 3, 6, 7, Makita (see figures 5-6B) discloses a sealing plug 25 for a watertight connector, the sealing plug 15 being formed with at least one wire 27 insertion hole through which a wire 27 is to be inserted, and being at least partly insertable into a cavity 31 of a connector housing 20 to provide a watertight sealing 45 between an inner wall 31a of the cavity and the wire, wherein a frictional resistance at projections 49 between the inner wall of the cavity 31 and the sealing plug 15 appear to be larger than a frictional resistance between the wire and the sealing plug. Makita discloses the claimed invention in which it appear that the frictional resistance between the wire and the sealing plug would permit a movement of the wire relative to the sealing plug when the wire is caused to move, see column 6, lines 13-15. Since the reference does not discuss this matter, it is consider that it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the friction resistance between the wire and the sealing plug is set to permit easier assembly.

Regarding claim 2, Makita discloses at least one outer lip 49 is formed on an outer surface of the sealing plug 15 for contact with the inner wall of the cavity 31 and at least one inner lip 43 is formed on an inner surface of the sealing plug 15 for contact with the wire 27.

Regarding claim 4, Makita discloses there are more of the outer lips 49 than the inner lips 43 so that a total frictional resistance between the inner wall of the cavity 31 and the outer lips 49 exceeds a total frictional resistance between the wire 27 and the inner lips 43.

Regarding claim 5, Makita discloses the outer lips 49 and the inner lips 43 are substantially aligned.

Regarding claim 8, Makita discloses a watertight connector comprising a housing 20 having at least one cavity is insertable.

Regarding claim 10, Makita discloses a terminal fitting is connected to the wire (40) in overlapping relationship to the sealing plug (10).

Allowable Subject Matter

3. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the reference discloses a mirror finish is applied to at least part of the inner wall of the cavity.

Response to Arguments

Applicant argues that the Makita "reference does not discuss" any aspect of a frictional resistance that permits movement of the wire related to the sealing plug without permitting movement of the sealing plug relative to the housing. The Examiner respectfully disagrees. Since there is large friction area at 49 that appear to produce large friction effect than the small friction area at 43, even as shows with slits it seems that the seal would tend to stick tightly in bore 31a.

Applicant argues that, by the Examiner admission there is no such teaching or motivation in the Makita reference would appear to support less friction resistance between the wire and the sealing plug than between the sealing plug and the housing. The Examiner respectfully agrees that there is no such explicit teaching, but the retention structure is seen to inherently produce such effect.

Applicant argues that the greater flexibility and the smaller surface contact area of the radially outwardly extending projection 34 of Makita would provide the lower friction resistance than shorter inner projections of Makita. The Examiner respectfully disagrees. Compare to Applicant over Figure 5 where large contact area 12 is stated to produce a large friction effect. In the Makita reference, large contact area at 49 should also produce large friction effect.

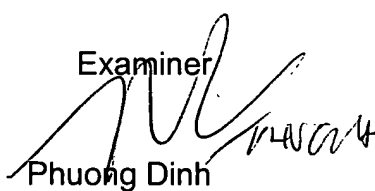
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong KT Dinh whose telephone number is 571-272-2090. The examiner can normally be reached on 8 -5, 5 days a week.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TC Patel can be reached on 571-272-2098. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner



Phuong Dinh

September 14, 2004.